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ABSTRACT

This report describes a study on the need for and feasibility of establishing an international system for facilitating access to materials on early childhood development. The Education Commission of the States (ECS) investigated international need for and interest in the establishment of a common pool of information from international sources, and developed an approach to establishing such a system. Three phases of the study are described. Phase I involved distribution of a questionnaire exploring early childhood needs to communications experts, early childhood agency officials and professionals in 75 nations. Questionnaire responses resulted in the convening of subsequent planning sessions (Phases II and III) during which guidelines were established on systems design and implementation. It appeared that structuring an information system through informal arrangements with countries and regional organizations, as opposed to working through official government or U.N. agencies, was most feasible. A pilot project was proposed in which the International Children's Centre (with the assistance of ECS) would: (1) create a repository of developmental, program, communications and motivational information, and (2) provide this information to researchers and scholars, decision-makers, and persons who work with young children. Two major products available from the information center would be: knowledge abstracts, and how-to-do-it kits. A meeting was set for the spring of 1977 to review the program's progress. (BF)

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Education Commission of the States

Final Report

OCD-CB-457

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I. FEASIBILITY STUDY PHASES AND MAJOR FINDINGS

A. Educational Technology Demonstration: Identification of the Problem

In 1971 the Education Commission of the States became involved in the Educational Technology Demonstration, a project using a satellite to broadcast experimental educational programs to selected audiences in the eight Rocky Mountain states. The commission's role in that project was to assess the feasibility of multimedia educational services for people who work with young children and to assist in designing integrated service delivery systems.*

During this period the commission had firsthand experience with the difficulty of locating early childhood educational services. Despite efforts of a staff to systematically locate these materials, there was no place where comprehensive information could be found. Indeed, the commission had to rely primarily on its network of personal contacts to locate the services at a considerable expenditure of resources. Paths would cross with other professionals doing similar kinds of activities. The effort in the United States was one of trial and error and not very cost effective. The international experience followed this same pattern. Even the international agencies of the United Nations and other international groups had no systematic information about early childhood educational services and delivery systems that different countries were utilizing.

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*Integrated service delivery systems refers to the multiple use of technologies like TV, radio and printed materials coupled with human teaching or facilitation for the purpose of presenting an educational program.

Where information regarding some of the agencies and their work was available, the problem remained of having to consult several different agencies in various locales to obtain materials. The efficiency of the delivery of early childhood services is severely limited; and the upgrading of these services is hampered when, in fact, there is no central place to find the available information and materials.

State and federal constituencies of the Education Commission of the States were also interested in exploration of ongoing international activity in early childhood development, as well as acquisition and dissemination of these materials. The basis of the problem seems to be a question of how nations, organizations and individuals within nations acquire and utilize the products and services which exist. In an effort to make information about early childhood development more usable, nations have increasingly turned to more advanced communication technologies. Yet, as more automated processing and retrieval systems are developed to improve communication within a nation, more effective communication has not occurred because the automated technologies which have been used still rely on organizational and presentation methods typical of the precomputer era.

What is needed is a new and flexible information service or network of information services which facilitates the use of more effective services and delivery systems for young children.

B. Phase I -- Exploration of Interest

In response to these needs and requests, the Education Commission of the States began a feasibility study to assess and measure the felt needs of peo-

ple around the world who were designing and disseminating early childhood educational materials.

The main purpose of the feasibility study was to determine if professionals and parents around the world had a need and interest for information in early childhood development from their own and other countries. The feasibility study attempted to answer the following questions:

1. Is there an international need for easily accessible information on and/or distribution of early childhood materials; e.g., films, TV programs, audio tapes, records, books, leaflets and other related resources?
2. If such a need exists, which countries are interested in participation -- which not, and why not?
3. If there is a need for a system(s) of information acquisition and dissemination, where should it (they) be located?
4. If such a system(s) is to be established, who should finance it (them)?
5. What agency, group or institution should advise, direct, formulate policy and guide decision making?
6. What agency, group or institution should have the direct responsibility of operating the system(s)?

The commission's first task was to design a questionnaire to ascertain early childhood information needs in selected countries. These questionnaires were distributed to approximately 75 nations. They were administered to a combination of communication experts, early childhood agency officials and professionals. The goal was to get a cross-section of opinion both from policy makers and persons who work with young children about information and communication problems.

The questionnaire was administered in conjunction with staff attendance at the Prix Jeunesse International meeting held in Munich in October 1973. Staff discussed the problem with Prix Jeunesse International participants. Further contacts with the Asian Broadcasting Union, European Broadcasting Union, International Organization of Radio and Television (Eastern Europe), Asian Mass Communication Research and Information Center, UNESCO, UNICEF, WHO and regional offices of the various international agencies were initiated. Appendix A contains a list of these representatives.

Findings indicated that the participants agreed with the premise that an information service was needed. The high agreement among countries suggested an interest in establishing an information system. Responses indicated that many countries would be willing to participate in the planning and implementation of a system. As a result of these study conclusions, plans were made for an initial information system planning session of interested persons of varying nations around the world.

C. Phase II -- Planning for the Design of an Information System

In March 1974, in Singapore, the first information system planning session was held. Singapore was selected by the participants for the meeting site. The Asian Mass Communication Research and Information Center and the Education Commission of the States joined forces to host the meeting to consider the design of an information system for disseminating early childhood development services and delivery system information. Early childhood communication specialists, along with human services policy makers, attended from Germany, Iran, Hong Kong, India, France, United States, Mexico, Singapore, England and West Africa. A list of participants is contained in Appendix B.

A summary of findings from the first phase of the feasibility study was provided to all participants as the major review and discussion stimulus. The purpose of this presentation was to explore potential plans for implementation. The problems of system design were clarified, and a number of strategies were presented for beginning such an effort. The discussions led to a concensus of the following:

1. That efforts should be concentrated on a regional basis, such as Southeast Asia, East Africa, the Middle East, etc. The number of regions should be contingent upon availability of resources and upon identification of regions of greatest need. The effort should begin on a small scale in one region where early childhood is a priority and gradually expand to other areas of the world.
2. That the regions include Singapore meeting representation, as well as Arab, South American and Eastern Europe representatives.
3. That ECS should identify existing regional information system efforts and document their design and characteristics.
4. That the effort need not necessarily be limited to the early childhood area of concentration during the preliminary stages.
5. That a common core of knowledge about early childhood development should be agreed upon, and the application of this knowledge should be flexible in order to adapt different internal and external forces of traditional mores and environments of the various countries.
6. That the system should not only provide information about the common core, but should also be able to provide training and technical assistance based on local requirements.
7. That ECS should present to participants at the next meeting a list of early childhood development information areas of greatest need. This draft should be sent to participants for suggestions and further input.

8. That, at a future date, an expanded group of appropriate national political decision makers should be involved in the effort if it is to succeed. That participants identify national, regional and international organizations which might be willing to cooperate and participate in the effort.

9. That a critical factor is funding. International efforts require much time and coordination, and ECS should identify major funding sources that might be willing to support the effort. The search for funding should be within the participating group and outside the group.

10. That ECS should continue to serve as the catalyst of the overall effort.

D. Phase III -- Finalization of Planning and Design of the Early Childhood Development Information System

In November 1975, in Hawaii, the second information system planning session was held. Hawaii was selected by the participants as a convenient meeting site. A list of participants is contained in Appendix C. The Education Commission of the States hosted the meeting to discuss a design plan for the early childhood development information system and to arrive at a consensus on four major questions:

1. Which geographic, cultural and political jurisdictional areas should be established for the operation of an early childhood development information system?

2. Which agency or agencies should function as an information service and delivery system clearinghouse validator?

3. Which information delivery systems hold the greater promise for responding to user needs?

4. What funding sources are available to provide the necessary resources for any proposed early childhood development information system?

The following was offered as design guidelines for continuing discussions of an early childhood development information system. These guidelines define the parameters of an information system, as well as their structures and functions. Formulation of this framework was in part a result of information system literature reviews and the Singapore discussions.

Users

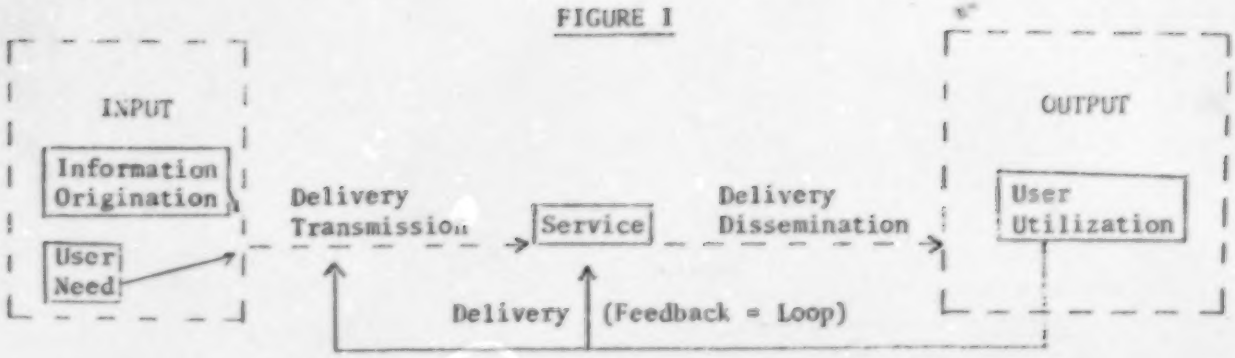
An information system is established to deliver a needed service to a particular user audience. The potential user population of this effort is:

1. Early childhood professionals, including researchers, practitioners, health personnel dealing with children, program administrators and producers of early childhood materials.
2. Paraprofessionals, including day care and kindergarten personnel working with children.
3. Parents, those that have an interest and need for information on childhood problems and ideas.
4. Decision makers, particularly those from all levels of government whose decisions about allocations of resources affect the welfare of children.

Structure

Every information system has two basic elements, and a system for people that work with young children is no exception. These elements are: (1) content or service, and (2) the system of delivery for the service. Note the simplified and diagrammatic illustration on the following page.

FIGURE I



The first box, Input, has two major categories:

1. Need: This means that the users must be able to easily and simply state their informational needs into the system. The variety of ways in which these may be transmitted or delivered will be discussed later.
2. Origination: This pertains to the information or material itself. Every information system or network must have at least one or more points at which the information or material is deposited into the system. In a few very specific areas of information science, this may be achieved automatically; but more typically, the information is acquired through a data collection process which is labor intensive.

The service box of Figure I is the most complex. The subsystems of the service, when drawn sequentially and diagrammatically, are:

FIGURE II

Information Evaluation Selection Analysis Indexing

User Need Storage Retrieval Correlation

1. Evaluation and Selection. In automated information systems, evaluation and selection are usually different functions, but in manual or nonauto-

mated networks these may be considered one function. The evaluation is simply checking incoming information to reduce errors. Selection means directing the large flow of raw information. These are both low order decision processes and are often done mechanically.

2. Analysis and Indexing. Analysis of information in a communication system is a highly systematic task performed by technical experts, which establishes the value of the information according to its relative use. This process stands the least chance of becoming automated in any future information system because it is the most labor intensive. It is a judgment process.

3. Indexing. Indexing is the task of structuring information by specified standards so that other manipulations may be accomplished. The information must have a measurable degree of standardization so that computers or manual techniques may select information from manipulation or retrieval.

It is noted that before analysis may occur, standards for indexing must exist. This is a major concern in discussing an international information network for people that work with young children, for it is a major hurdle toward the establishment of such a network.

Bibliographic control is the basic ingredient of organization in all library and information systems. Until there is developed a cataloging and/or bibliographic control system for nonprint informational units that provides the sophistication to meet the indexing, storage and retrieval needs of information units, there will be a formidable barrier in establishing any type of international information system. Likewise, as long as the content of print items is treated differently than non-

print, the user will have difficulty in identifying the total informational store available to him/her. A common bibliographic control system presenting information to the user on the available information in a library or system of libraries is the essential ingredient in interlibrary communication and information networking. This issue seems to have commanded attention internationally.

4. Storage. Storage is the point in the system at which a user's request is introduced. Storage may be accomplished by one or a combination of various types of hardware and media. This usually means some variety of computer and standard information services; but in nonautomated systems such as libraries, the function is executed manually.

   For a nonprint medium, the physical items are becoming smaller and simpler to store and use. User access to such material might be on a remote electronic basis as in dial-access information retrieval systems in which a switching matrix accesses stored video-audio material. Such information systems could carry large volumes of video-audio materials via electronic internetwork connections.

5. Retrieval. Retrieval means obtaining responses from storage stated on program criteria based on user needs. Information retrieval is highly associated with the storage being the transfer function. The major goal within the retrieval function is to match the correct information and level of abstraction to the need and intention of the early childhood user, and both indexing and retrieval are directed toward this goal. In nonprint, this goal cannot be realized until an appropriate system of indexing and bibliographic control is devised. Storage and retrieval are made easier with computer equipment.

6. Correlation. Correlation is the last checkpoint in an information sys-

tem. It is the actual manipulation of information in automated systems, based on mathematical, logical or statistical standards. In automated systems, it simply reduces the opportunity for additional subjective judgment.

Utilization of the output, the last box in Figure I, is the critical feature of any communications information system, for it is the purpose of the entire system. Information systems are designed and built to satisfy a need or needs of a particular group of users. Yet, too many systems lose the user in the complexity of their systems. Instead of responding to needs, the system dictates them. At this level, many information systems seem to focus only on standard print materials, despite the fact that most mass communications developments are occurring in the electronic and general media. The continuing problem, though, is the failure of information systems to organize and present information that is relevant to the information needs of the user.

Implementation Problems

At another level -- the human level -- much of the information system's development seems to be based on the premise that the introduction of technical refinements, such as high speed computers, will meet human and professional needs of users. Providing new electronic gadgetry is no sign that it will be utilized, for the most modern of technological media do not escape elementary facts of human habit and behavior. Human needs and preferences must be given top priority. Thus, in a systematic international early childhood information network, the needs of early childhood users, both policy makers and persons who work with young children, must dictate the various elements of the service and the delivery systems.

Some agencies have tried to overcome this. The International Children's Centre gears their printed material to specific concerns: intellectual and cultural differences of the users. They also provide personal assistance if it is needed. The more successful of their techniques might be considered in the design of an international information system for early childhood caretakers and professionals.

One of the goals of the United Nations' second development decade (1971-1980) is to establish international computer networks for information and data transmission, and they recommend that early childhood development leaders of all nations begin to lobby the UN, UNICEF and appropriate international bodies for a portion of that information network.

The majority of scientists and specialists prefer informal communication and exchange through correspondence, seminars and telephone, despite their imperfections and low efficiency. The degree of utilization of the system by users is often inversely proportional to the degree of their technical ability. The reason is a failure to take into account the varying aspects of the behavior of human beings in communication processes. In this connection, information systems should be based on three major principles: (1) development and building up of user needs; (2) any changes in the system be based on need and be well received by users; (3) information presentation design be carefully matched to user needs.

Continuing Questions to be Resolved

The problem of no available source of early childhood development information is twofold: (1) a lack of systematic organization in terms of the broad knowledge base, and (2) the inadequacy of presentation in terms of re-

sponding to user needs. Interest in resolving the problem remains high among both policy makers and persons who work with young children around the world. Even though the application of technology, particularly the use of computers in operating information systems, has been widespread, little resolution of the problem has occurred. The tendency has been to perpetuate the same problems in greater quantity. There are several continuing questions that need to be resolved. Phase III of the International Educational Exchange Project was designed to respond to the questions. The major continuing questions the participants dealt with were as follows:

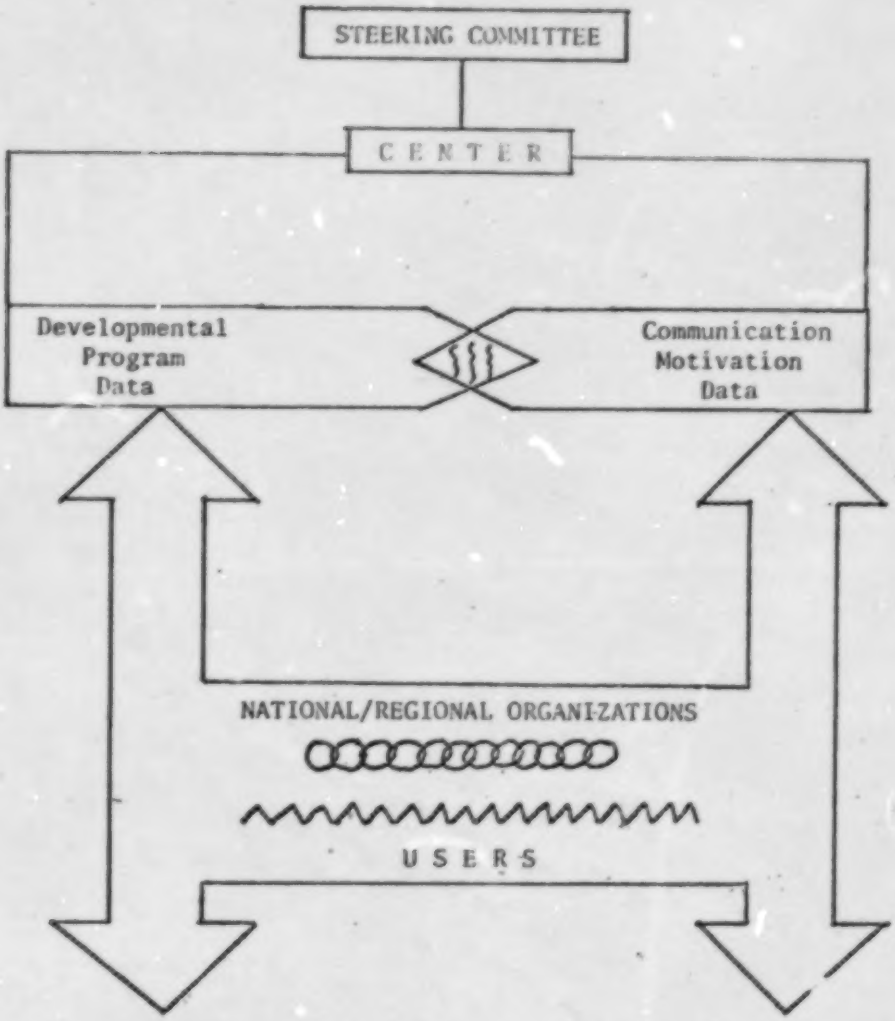
1. Which geographic, cultural and political jurisdictional areas should be established for the operation of an early childhood development information system?
2. Which agency or agencies should function as an information service and delivery system clearinghouse validator?
3. Which information delivery systems hold the greater promise for responding to user needs?
4. What funding sources are available to provide the necessary resources for any proposed early childhood development information system?

Appendix D contains a more detailed listing of subquestions relative to each major question. These questions served as a guide for discussions. The sessions addressed major parameters and concerns regarding each of the questions. Two working groups were formed from the participants and staff to resolve specific issues and reach recommendations on the plan and design of an information system.

Findings and Recommendations

Out of these sessions a consensus of findings and recommendations were summarized. The five major concerns agreed upon were:

1. That a centralized location for the early childhood information system needs to be established. That this central facility would have the responsibility of gathering the information, organizing it, analyzing and preparing the appropriate reports, and working with regional communication distribution centers for dissemination.
2. That any dissemination of the information should be done in a usable form. It was stated that all too often information systems tend to perpetuate esoteric reporting that is of questionable value.
3. That the information system should have a needs assessment approach which is ongoing and that results in the system's being responsive to its user needs. It was recognized that many international, regional and national information systems fail to respond to user needs.
4. That the central facility which houses the information system should have geographic proximity to its users and have an international but nonpolitical character.
5. That the dissemination arm of the center should utilize existing regional and national organizations for its distribution activities. This would make it possible for the existing regional and national organizations to utilize a central early childhood data base, but localize the dissemination of that data base to the user needs in terms of language, cultures and societal organizational needs. The chart which follows suggests one of the ways in which these concerns were pictorialized in an operational sense. These particular components seem to be a consensus of the group.



Service Information

All information should be collected on a voluntary basis as a beginning point. There are many centers now available in the world which have repositories of information which could be called upon to build this central data base. This information base should contain the following four basic knowledge elements:

1. Research studies on the substantive areas of early childhood development.
2. Program models for achieving specific developmental objectives.

3. Communication models for achieving specific educational objectives.
4. Motivation models for achieving specific regional, national and local involvement objectives.

These knowledge elements should be updated through ongoing user feedback. Some of the knowledge elements lend themselves to a storehouse approach via a central location, while others may be more readily approached through a referral technique. For example, research studies on child development are contained on limited numbers of documents making the storehouse approach the appropriate strategy, while communication models like videotapes can be organized more effectively through a referral approach. This approach is utilized as a cost-saving strategy because of the expense and cumbersomeness of videotapes, films, etc.

Delivery System

Two major products would be available from the information system center: (1) knowledge abstracts, and (2) application how-to-do-it kits. Users of these products would include scientists, parents, practitioners, communicators and decision makers. Regional, national and local delivery systems would be utilized for product dissemination. This would allow for pertinent language, cultural and societal organization modifications to meet local needs.

Organization

The central organization should create the knowledge synthesis and prepare the two major information system products. One existing capability, the International Children's Centre, could be utilized as a starting point to meet this central organization need. Early childhood development research and early childhood program knowledge are available and can be acquired. Commu-

nication and motivational knowledge are less accessible at this time and will require a more concerted effort.

Regional and national organizations should be utilized in creating the how-to-do-it kits or application products. They would also be used in the dissemination of such products. These organizations would provide the user links and make user feedback available once the center is operational. This strategy builds upon a single centralized facility which houses the four research informational elements, while utilizing existing regional and national organizations for distribution, dissemination and feedback. This addresses two major problems of information systems in a functional and effective manner: (1) the need for a centralized facility with update capability, and (2) an outreach system that localizes information for users based on differing language, cultural and societal organizational needs.

Follow-Up Activities

It was recommended that an advisory group be created to further develop information system plans. Mr. Mason, the chairman, appointed the following persons to the advisory committee: Dr. Manciaux, Director-General of the International Children's Centre; Dr. Grotberg, U.S. Office of Child Development; Dr. Peterson, Education Commission of the States; Dr. Emrich, Prix Jeunesse; and Mr. Coyle, the British Broadcasting Corporation. The assumption was made that the International Children's Centre would accept the role as initial organizer of the centralized information system center. ICC would work on an operational plan during the next 18 months. This plan would specify how the center would operate, how it would relate to the regional and national organizations, as well as assess funding needs and how those needs might be resolved.

It was agreed that the participants of this meeting would act as the steering committee for the effort. A report of the meeting would be disseminated in early January; and then, in the spring, a draft copy of an operational plan prepared by International Children's Centre in conjunction with the advisory committee, previously mentioned, would be disseminated for comments to the steering committee. Once the steering committee had commented, these comments would be incorporated in time for an April International Children's Centre board meeting to obtain final approval of them by that board. It was agreed that, in the spring of 1977, the International Children's Centre would host a full meeting of the steering committee in Paris to review the first 18 months of the operational plan and activities during that period. At that time, final determination of future goals and objectives would be finalized.

II. FEASIBILITY STUDY FINDINGS AND IMPLICATIONS

A. A Recommended Approach

The need for information about the development of young children continues to increase. Basic developmental information about young children, as well as programmatic information about which methods are most effective for stimulating growth and development in children, is a shared concern of many nations. The International Children's Centre has one of the better repositories of this information in the world. The Centre is international in character, as well as nonpolitical. See Appendix E for a description of the International Children's Centre.

The Education Commission of the States, a state-based organization of the United States political and educational leadership, has over the past three years attempted to determine which countries have interest in sharing information about young children. Through these efforts, an approach enabling any country of the world to share in a common pool of early childhood information has developed.

It has been determined that the International Children's Centre, with the assistance of the Education Commission of the States, should provide the necessary leadership and resources to expand the existing information and documentation capability of the International Children's Centre. A pilot effort should be created to achieve two major objectives:

1. To create a repository of developmental information (basic scientific information on the growth and development of young children from the prenatal period to eight years of age), program information (information on the best methods for stimulating specific kinds of development), com-

munication information (information about the most effective multimedia methods for dissemination), and motivational information (information regarding methods of involving and stimulating the acceptance and use of early childhood programs at the state and community level); and

2. To provide the four types of information to researchers or scholars, decision makers (legislators, secretariats, director generals, governors and administrators) and persons who work with young children (teachers, physicians, day care workers, social workers, parents, etc.).

In order to accomplish these objectives, the International Children's Centre with the assistance of ECS could expand its existing information and documentation capabilities to include the following activities:

1. Focus the expansion on parent-child interaction and nutrition and provide bibliographic information for each of the four information areas;
2. Develop a better network of contacts for receiving early childhood information from interested nations;
3. Develop a better dissemination process with interested nations;
4. With the advice and counsel of the steering committee, develop sample abstracts of nutrition and parent-child interaction information for the three target audiences;
5. Make these abstracts available in French, English and Spanish;
6. Utilize the regional and national communication organizations for dissemination represented by the steering committee of the project;
7. Develop a brochure for promoting the expanded services;
8. Maintain liaison with WHO, UNESCO, UNICEF, etc., for purposes of creating understanding about the expanded services;
9. Convene a meeting of the steering committee during 1977 to assess the expanded services and determine future directions; and

10. Evaluate the number of users, characteristics of users, distribution by country, and the specific utilization by the users.

The overall goal of this expanded effort is to make early childhood information far more usable and not to create more and more information. How best to accomplish this goal will be the major focus of the project. Evaluation criteria like the number of users in each of the target audiences, their national dispersion, how they used the information, etc., will be established to guide the future directions of the effort.

It is estimated that, with the in-kind contributions of the Education Commission of the States and the International Children's Centre, along with a project budget of $75,000 U.S., this effort could be initiated. In-kind contributions would include:

1. Education Commission of the States -- publication of the effort in the U.S.A., technical assistance and coordination of U.S.A. requests for information; and
2. International Children's Centre -- existing information and documentation capability, outreach/publication capability, and facilities.

A project budget would be used to pay for the following activities:

(1) Secretariat	$12,000
(2) Documentation & Translation	33,000
(3) Mailing & Duplication	7,000
(4) Promotional and Travel	8,000
(5) Meetings and Conferences	15,000
	$75,000

It is anticipated that this expanded effort should begin in the fall of 1976 and operate through late spring of 1977. During this period of time, plans could be developed for financing the future operation of this proposed effort.

B. Major Findings and Recommendations

The feasibility study explored six questions about early childhood development information and methods for disseminating such information:

1. Is there an international need for easily accessible information on and/or distribution of early childhood materials; e.g. films, TV programs, audio tapes, records, books, leaflets and other related resources?
2. If such a need exists, which countries are interested in participation -- which not and why not?
3. If there is a need for a system(s) of information acquisition and dissemination, where should it (they) be located?
4. If such a system(s) is to be established, who should finance it (them)?
5. What agency, group or institution should advise, direct, formulate policy and guide decision making?
6. What agency, group or institution should have the direct responsibility of operating the system(s)?

The study approach included three phases. Phase I was concerned with Questions 1 and 2, the determination of which countries perceive an early childhood information need and have an interest in addressing the problem. Phase II dealt with Questions 1 through 6, with a primary focus on planning for the design of an information system. Phase III consisted of finalizing the planning and design of a pilot information system.

Although the problems of access to early childhood information in most countries of the world are the same, the willingness to expend resources toward its resolution vary greatly. For example, in the United States a continuing problem is how to systematize the exploding knowledge base about young children. Numerous research programs contribute new knowledge and update existing knowledge each year. Organizing this knowledge so that it can be useful to researchers, practitioners and policy makers is next to impossible. Apart from the vastness of new knowledge, the logistics of obtaining cooperation from each contributor to the knowledge base is most difficult. In conjunction with this study, an effort was made to coordinate follow-up studies of Head Start. After numerous meetings with the original researchers, a cooperative study agreement was reached. However, implementation of the agreement presented problems already described in this feasibility study. The mechanics of sharing information about young children in a systematic manner are not readily understood nor practiced to any degree. The specific findings of the follow-up study are available in a separate document.

The study during Phase I identified countries and persons willing to explore how a more available and useable system of early childhood information might be established. These countries and individuals were shown in Appendix B. It was determined that communication agencies, both national TV and radio systems, as well as regional consortiums of broadcasting and communication organizations, were highly interested in the pursuit of more accessible and useable information on early childhood development. Early childhood agencies and professional persons concerned with early childhood development training and information dissemination, both within countries and regional consortiums concerned with early childhood development issues, were similarly most interested in addressing the problem.

A major barrier to cooperative efforts is the perceived potential of UNESCO and UNICEF efforts to systematize early childhood development information. A great amount of frustration has built up around these efforts to date. Large amounts of money have been invested, but few notable improvements in services have occurred. Because of these limited successes, there is great reluctance to commit any major resources to remedying the situation. A strategy was recommended and developed that included governmental entities and countries, but relied more heavily upon informal structures within these countries and organizations to develop impetus for responding to the problem and changing the state of affairs.

Phase II of the study identified conditions that set the stage for system design during Phase III. Important conclusions reached by the participants during Phase II were as follows:

1. Any information system should be developed around regional identities and, wherever possible, utilize existing system capabilities.
2. There should be a common core of knowledge which can be readily updated to provide a current, single source of information.
3. There should be multiple target users, including the researcher, the practitioner and decision makers.
4. A concerted effort, once the system has been piloted and its usefulness demonstrated, should be made to develop political support both within countries, among countries, and among organizations responsible for communication and dissemination of information.
5. Multiple funding sources should be explored, ranging from grant types of funding to self-sustaining fees.

Phase III produces findings and recommendations on how the system should be designed and operated. Important conclusions reached were:

1. That a centralized facility for early childhood information collection and dissemination should be established.
2. That information should be highly useable and geared to decision makers as well as practitioners and researchers in the early childhood areas.
3. The system needs to be dynamic and contain a needs assessment approach which can continually monitor the kinds of information needed.
4. That the central facility which houses the information system should have easy access to users and be non-political. That the dissemination arm of the center should use regional and country communication capabilities. The communication centers should play an integral part in the design of the system so that it will share in its ownership once it's operational.

Based upon these findings and conclusions, a pilot project has been established with the International Children's Centre. It appears that structuring an early childhood development information system capability through informal arrangements with countries and regional organizations as opposed to working through official arms of government, whether they be state governments or international governments like UNESCO, is most feasible. This strategy appears to circumvent the apathy and bureaucratic procedures so typical of the more formal channels. The real test of this approach can only be evaluated in the months ahead as the pilot system is designed and implemented.

APPENDIX A

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Prix Jeunesse International Meeting
Munich, Germany
October 15-18, 1973

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APPENDIX C

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APPENDIX D

Major Question A: Which geographic, cultural and political jurisdictional areas should be established for the operation of an early childhood development information system?

Subquestions

1. What major geographic regions are there?
2. What major cultural regions are there?
3. What major political jurisdictions are there?
4. Are geographic, cultural and political regions overlapping, adjacent and/or functionally related in some way?
5. What are the commonalities among the regions? What are the differences?
6. Should existing international organizations be considered as the organizing force (UNESCO, International Children's Centre, UNICEF, Asian Mass Communication, etc.)?
7. Should the information system be built around communication agencies and/or agencies concerned with the needs of young children? What should the relative mix be?
8. What should be the interfaces between the organizational elements of the information system and the varying geographic, cultural and political areas of the world?

Major Question B: What agency or agencies should function as an information service and delivery system clearinghouse validator?

Subquestions

1. What agency provides service validation functions?
2. Should there be an advisory committee to give overall sanction to service information?
3. Should an alternative-type approach be used in the selection of information about services?
4. How will priorities be determined?
5. What will be the scope of review and validation?
6. What user information needs assessment will be performed? How often will this needs assessment be updated?
7. What will be the validation criteria?

Major Question C: Which information delivery systems hold the greater promise for responding to user needs?

Subquestions

1. What will the elements of the delivery system contain?
2. How will user needs be addressed by the delivery system (both decision makers and persons who work with young children)?
3. What will the mix of technology be in the delivery system configuration?
4. How will the delivery system be organized, given the overall organizational decisions of the information system?

Major Question D: What funding sources are available to provide the necessary resources for any proposed early childhood development information system?

Subquestions

1. How will funding be related to the organizational structures, given the geographic, cultural and political realities of the world?
2. What amo nts of seed money will be required for planning and design of the information system and over what time periods?
3. What will the planning and design effort involve and how long will it extend?
4. Will the implementation of the system be a segmented one, beginning in an area and working from a feasibility analysis process?
5. What will the sources for funding be, i.e., grants, self-supporting and/or assessments for use factors?

APPENDIX E

International Children's Centre

Basically funded through the Economic and Social Council of the United Nations and the French government, the International Children's Centre (ICC) originated in Paris, France in November 1949. The ICC is a public foundation and receives monies from other sources, such as the World Health Organization.

The specific goal of the ICC is to promote the study of all problems affecting childhood and the training and information of staff who work with children throughout the countries of the world. The objectives of the Centre are:

- To assist in the training and information of staff who work with children and of everyone interested in the health, psychological and social problems that are presented in different countries, particularly the underprivileged countries, by the development of young people: physicians, nurses, social workers, nursery nurses, teachers, children's magistrates, special architects;
- To promote and carry out research concerned with and bringing together all disciplines affecting children;
- To work for the integration of programs for children and young people within national economic and social development plans; and
- To cater for individuals and groups working in this field and to provide them with documentation, technical advice and guidance.

The various departments of the ICC are teaching, investigations, research information and documentation, and evaluation and operation. The primary function of the documentation service of the ICC is to gather multidisciplinary materi in such fields as: emotional development; nutrition; growth of fetus, infant and child; brain development; problems of health; family relations; educational and

social problems of children and adolescents. The material is international and national and is intended for use by economists, anthropologists, statisticians, psychologists, educators, teachers, demographers, physicians, sociologists, planning and policy makers, architects, social workers, midwives, public health and hospital nurses, epidemiologists and other paramedical workers, science journalists and parents.

Likewise, the goals and activities of the ICC fit in with those views of ECS which outline the potential users of such a system of information distribution:

1. Early childhood professionals, including researchers, practitioners, health personnel dealing with children, program administrators, and producers of early childhood materials;
2. Paraprofessionals, including day care and kindergarten personnel working with children;
3. Parents, those that have an interest and need for information on childhood problems and ideas; and
4. Decision makers, particularly those from all levels of government whose decisions about allocations of resources affect the welfare of children.

All documents gathered by this service (whether books, journals or reports) are carefully abstracted within a short time after their receipt. Those articles which are considered as valuable are analyzed (abstracted) by a group of qualified specialists. With a current library of approximately 2,600,000 reference cards dating back to 1949, the ICC distributes these references worldwide either (1) in response to requests for bibliographies on a specific topic, or (2) they are sent regularly to those who subscribe for this service on an annual basis.

Although this "handcrafted" (artisanal) method is time consuming, requiring mi-

nute attention to detail, it does result in the provision of very satisfactory material to the users. This is the technique which would be used for dissemination of information if the ICC were to be assigned the responsibility of providing the material for the "information program on early childhood development." The acceptance of this work would involve certain additional expenses for the ICC since it would be necessary to:

1. Enlarge its information resources by subscribing to new journals and books on growth, development and related fields;
2. Provide salaries for an additional full-time analyst and full-time secretary in order to provide an even more rapid reporting of materials to those seeking information;
3. Establish links with existing programs in specialized fields, certain of which are already automated, necessitating the installation of a terminal at ICC; and
4. Enlarge its system of diffusing information so as to reach the greatest possible number of users, which would require a larger financial outlay -- especially for shipping charges. These expenses could be minimized by using microfilms, even if the shipment of microfilms has to be accompanied by the shipment of the magnifying apparatus.

The ICC works with two corresponding centers -- one in Dakar (Africa) and one in Rio de Janeiro -- which receive the totality of its file cards. Additional centers are planned in Algeria, Turkey and Vietnam. The ICC has a list of 25,000 people throughout the world who have taken courses at the ICC since its foundation and a list of subscribers to the Centre's journals: "Courrier" and "Child in the Tropics."

Therefore, it would appear that the Centre has the basic qualifications for un-

dertaking this proposed task. Upon approval, the ICC will start by limiting itself to the following three areas: (1) parent-child relations, (2) interaction of the child with her or his environment, and (3) relation of nutrition to child development.